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Food Protection

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THE production, processing, preservation, and distribution of food are important world problems today. They deserve careful study and call for further research in the science of chemistry and further experimentation on the application of modern technology to the solution of practical difficulties encountered. More consideration must be given to the important role which chemicals play in increasing the production of healthful and nutritious food from present crop acreage and in reducing economic losses which result from pests, food spoilage, and deterioration of various kinds. Existing practices of introducing small quantities of chemicals into foods for the purpose of improving the texture, flavor, or color, or for increasing the nutritive value should continue to be examined.

Recognizing the importance of the food protection problem, the Food and Nutrition Board of the Academy–Council established the Food Protection Committee. This Committee, composed of representatives of private and governmental groups concerned with food problems and backed up by panels of specialists, has been assigned the following tasks: *1)* to develop guiding principles and standardized procedures essential to safeguard food; *2)* to assemble scientific information on both incidental and intentional chemical additives which are used or proposed for use in or on foods and to summarize and evaluate this information and make its conclusions available to those interested; *3)* to advise and assist industry and federal and state governmental agencies in the integration of research on the utilization of chemicals in food production, processing, and preservation and in promoting additional research which in the opinion of the Committee appears desirable in the public interest (the Committee itself, however, does not propose to conduct or finance research); *4)* to encourage and aid in the distribution of accurate scientific information to the general public.

The Food Protection Committee is primarily interested in determining whether the small amounts of chemical additives which find their way into foods incidental to use for production, processing, and preservation or which are intentionally added to foods for nutritional or technological advantage present dangers to the consumers. The Committee is concerned with possible hazards based on the chronic toxicity, the level at which chemicals remain in foods, and the total quantity consumed and also with the direct and indirect

nutritional value or effect of these chemical additives. The Committee is not interested in the industrial hazards or in hazards resulting from application of pesticides, since the American Medical Association is especially concerned with this phase of the problem and with the study of symptoms, diagnosis, and treatment of men and warm-blooded animals which have been exposed to pesticides during manufacture and use or application.

To insure that foods are safe for consumption requires the close cooperation of all groups concerned. These include the chemical manufacturer, the farmer who produces the food, the food processor, the medical profession, and the research and law enforcement agencies, both state and federal. The Food Protection Committee has the assistance of many individuals organized into liaison panels drawn from industry and its trade associations, government agencies, and scientific and technical societies. The liaison representatives serve as two-way channels for the flow of information between their respective organizations and the Committee. They may also serve on subcommittees, together with other experts, as need for such working groups arises.

A careful distinction must be made between hazard and toxicity. An estimate of the hazard of any substance must be based upon knowledge of the toxicity and of the details of its use. A clear distinction also must be made between those hazards which may result from accident during manufacture, use, or application of pesticides and the hazards which may result if more than minimal quantities of these chemicals remain in foods. Food hazards should not be confused with those hazards which result from carelessness.

Some individuals have the mistaken impression that a "synthetic" substance is undesirable. The scientist knows that there is no essential difference between the physical, chemical, and biological properties of a "synthetic" substance and the same properties of a product derived from "natural" sources. The fact that it is synthesized in the laboratory rather than in nature has no connection with its relative safety. In many cases products synthesized by man in the laboratory are more pure than those normally secured from natural sources. Some "natural" products are, of course, toxic, but this problem has been partially solved and many of the hazardous "natural" substances have been eliminated from the diet through long experience by large numbers of people over long periods of time.

No reputable manufacturer will add any chemical to food when a recognized hazard to the public health is involved. Unfortunately, however, adequate research data upon which to determine what is safe and what is not safe are not available for all chemicals. For this reason it is important that information of this nature be obtained as promptly as possible. Many state and federal agencies are engaged in research pertinent to the chemical additive problem. Industry also is supporting extensive research programs designed to ascertain the facts required as a basis for determining the safety or hazard of individual chemical additives. This work must go on.

The Committee has summarized the principles and procedures which appear at the present to be best suited to determine chronic toxicity and to evaluate safety of foods containing small quantities of added chemicals. The extent of research necessary on a particular chemical additive in a food varies with factors which determine the form and amount of the additive which is likely to be consumed by the individual. Qualitative factors important in the interpretation of toxicological studies include the following: *1)* uniformity of response within and among species; *2)* ease and mode of detoxication and tendency toward accumulation of the given additive in the body; *3)* occurrence of unusually alarming reactions such as carcinogenesis; and *4)* the occurrence of sensitivity, tolerance, or idiosyncrasy in response to use of the compound.

Basic considerations involved in evaluating hazards in the use of pesticides include timing and date of last application, rate of application, type of formulation, rate of residue loss up to harvest, and dilution due to growth of the plant. Prevention of residue by controlled application is increasing in importance and tends to supplant residue removal after harvest.

The subcommittees of the Food Protection Committee are working on a variety of problems. The Toxicology Subcommittee is attempting to develop useful, short-term screening procedures and is also continuing a study of the safety of the use of small quantities of surface active agents in foods. The Pesticide Subcommittee is evaluating the information needed as a prerequisite to the use of a pesticide. Data are being accumulated on the quantity of various spray residue chemicals in fresh and processed foods which are being offered to the consumer at the present time and which appear in the American dietary today. The Chemistry Subcommittee is developing and evaluating a bibliography of analytical methods for the quantitative determination of minute amounts of residue in fresh and processed foods. The Subcommittee on Food Technology is assembling information on the nature and quantities of chemical additives other than pesticides which are added, or proposed for addition, to foods during their processing and handling and regarding the benefits to be derived from such additives. It is assumed that incidental and intentional additives should be used only if they serve a useful and beneficial purpose.

The Committee has issued a general statement on the need and value of chemical additives and the safety of foods containing such additives. This statement explained the work now in progress and the present safeguards surrounding the use of chemical additives resulting from extensive research work by industry and state and federal research and regulatory agencies. It also discussed the need for certain additional information. Although further work is necessary, the evidence accumulated to date indicates that much is now being done to protect the public health and interest.

Adequate scientific research programs carried out prior to use of chemical additives in foods can reduce to a minimum the possibility of hazards. The fact that a chemical is toxic does not mean *per se* that its proper use as an additive will entail a hazard. "Can it be safely used?" is one of the first questions asked about a chemical proposed for addition to food. Chemical additives should not be permitted in a food until their safety for a given food use has been established beyond a reasonable doubt, as judged by competent experts.

SCIENCE NEWS

ANNUAL MEETING NATIONAL ACADEMY OF SCIENCES

Nearly half of the membership of the Academy took part in the 89th annual meeting held at the Academy building in Washington, April 28–30. Three foreign associates of the Academy were also present.

Upon the invitation of President Bronk, Professor E. D. Adrian, Master of Trinity College and President of The Royal Society, attended the meetings and addressed the Academy members and their guests at the annual dinner. Sir Geoffrey Taylor and Professor D. M. S. Watson, Fellows of The Royal Society, were among the honored guests. In addition to the distinction of having guests from the Academy's oldest ancestor, The Royal Society, this annual meeting observed special fealty to the founders of the Academy. Through the courtesy of the Home Secretary, prints and oil paintings of the incorporators were loaned by the National Collection of Fine Arts for exhibition in the Academy building.

At the five scientific sessions, which were open to the public, members of the Academy and introduced speakers reported on original investigations in a variety of scientific fields. A total of forty-two papers were presented.

In place of the evening public lecture, which had been a feature of previous annual meetings, there was a special program for the presentation of Academy medals.

At this ceremony, held in the auditorium of the Academy building, each of the medalists spoke briefly on his own scientific work. The program was followed by a reception in the Library and Reading Room.

Harry A. Marmer, of the U. S. Coast and Geodetic Survey, who received the Alexander Agassiz Medal, described the complexities of tidal excursions in different parts of the world and briefly listed some of the factors influencing them. Henry B. Bigelow, of the Museum of Comparative Zoology at Harvard, recipient of the Daniel Giraud Elliot Medal, told of his experiences as a marine zoologist and reviewed the years of study which led to the publication of *Fishes of the Western North Atlantic, Part I*, of which he is senior author. The James Craig Watson Medal was presented to H. R. Morgan, of the Yale University Observatory. Dr. Morgan discussed some of the problems of star positioning and the reckoning of time. The Henry Draper Medal, awarded to the late Bernard Lyot prior to his death on April 1, was accepted on behalf of Dr. Lyot's family by the French Ambassador, Henri Bonnet. Dr. Lyot, who was associated with the Meudon Observatory in France, made a study of the sun's corona and developed equipment for photography of the corona independent of eclipses. His work was interrupted by his untimely death in Cairo where he had stopped for a few days on his return journey from the Anglo-Egyptian Sudan where he had gone to observe the recent solar eclipse. Ambassador Bonnet, in responding to the medal presentation, underlined the urgent need for strong mutual support among the Western democracies and explained the importance which his country attaches to scientific matters in achieving international cooperation.

The morning and afternoon of Tuesday, April 29, were devoted to business sessions for the members and excursions to points of interest in Virginia for the guests. At the Academy dinner that evening, Edwin G. Conklin, the Academy member of longest standing, was invited by President Bronk to be the first to inscribe his name in the new book of Academy autographs. Dr. Conklin gave an interesting account of his early experiences in the Academy.

Following Dr. Conklin's remarks, Professor Adrian addressed the dinner group. Delineating some of the most profound and perplexing problems that scientists face today, Professor Adrian described the obstacles to becoming adequately informed about scientific progress even in a limited field, the problems involved in governmental support of universities, the requirements which must be met in the training of a sufficient number of able scientists, and the difficulties which need to be overcome to preserve scientific freedom and to ensure personal integrity in a world in which science and governments are necessarily interdependent.

Following the last of the scientific sessions on the final day of meeting, a buffet supper was held for members of the Academy. In this informal atmosphere, there was discussion of national and international policies affecting scientists and science and the role of the Academy in the formulation and execution of such policies.

In the opinion of many members of the Academy, the 89th annual meeting was not only the best attended but also one of the most enjoyable and meaningful.

ELECTION OF OFFICERS AND MEMBERS NATIONAL ACADEMY OF SCIENCES

At the annual business meeting of the Academy on April 29, William J. Robbins, Director of the New York Botanical Gardens, was reelected Treasurer for a four-year term ending June 30, 1956, and Robert F. Loeb, College of Physicians and Surgeons, Columbia University, and Wendell M. Stanley, University of California, were elected to membership on the Council of the Academy to serve until June 30, 1955. Dr. Loeb and Dr. Stanley will replace Ernest W. Goodpasture, Vanderbilt University, and Joel H. Hildebrand, University of California, who will complete their three-year terms on the Council on June 30, 1952.

The following members and foreign associates were elected:

New Members of the Academy

Fuller Albright, Associate Professor of Medicine, Harvard Medical School.

Richard McLean Badger, Professor of Chemistry, California Institute of Technology.

Horace Robert Byers, Chairman of Department of Meteorology, University of Chicago.

Claude Chevalley, Professor of Mathematics, Columbia University.

Gerald Maurice Clemence, Head Astronomer, U. S. Naval Observatory, Washington, D. C.

Lemuel Roscoe Cleveland, Professor of Zoology, Harvard University.

Joseph Stewart Fruton, Professor of Biochemistry, Yale University School of Medicine.

Crawford Hallock Greenewalt, President of E. I. du Pont de Nemours and Company, Inc.

David Tressel Griggs, Professor of Geophysics, University of California.

Sterling B. Hendricks, Chief Chemist, U. S. Bureau of Plant Industry, Soils, and Agricultural Engineering.

Harry Hammond Hess, Head of Department of Geology, Princeton University.

Carl Leavitt Hubbs, Professor of Biology, Scripps Institute of Oceanography.

William Summer Johnson, Professor of Organic Chemistry, University of Wisconsin.

Berwind Petersen Kaufmann, Department of Genetics, Carnegie Institution.

Clyde Kay Maben Kluckhohn, Professor of Anthropology, Harvard University.

Donald Benjamin Lindsley, Professor of Psychology, University of California.

Philip Duryee McMaster, Rockefeller Institute for Medical Research, New York City.

Carl George Niemann, Professor of Organic Chemistry, California Institute of Technology.

Chaim Leib Pekeris, Institute for Advanced Study, Princeton, N. J.

Norman Foster Ramsey, Jr., Professor of Physics, Harvard University.

Emilio Segre, Professor of Physics, University of California.

Robert Serber, Professor of Physics, Columbia University.

Frank Harold Spedding, Head of Department of Physical Chemistry, Iowa State College.

Lyman Spitzer, Jr., Director, Princeton University Observatory.

George Ledyard Stebbins, Jr., Professor of Genetics, University of California.

Edward Lawrie Tatum, Professor of Biology, Stanford University.

Victor Frederick Weisskopf, Professor of Physics, Massachusetts Institute of Technology.

John Archibald Wheeler, Professor of Physics, Princeton University.

John Warren Williams, Professor of Chemistry, University of Wisconsin.

Dilworth Wayne Woolley, Rockefeller Institute for Medical Research, New York City.

Foreign Associates

Niels Bjerrum, Professor of Chemistry, Royal Veterinary and Agricultural College, Copenhagen, Denmark.

Tadeus Reichstein, Director of Organic Laboratories, University of Basel, Basel, Switzerland.

Harald Ulrik Sverdrup, Director of the Norsk Polarinstitutt, Oslo, Norway.

AUTUMN MEETING NATIONAL ACADEMY OF SCIENCES

The autumn meeting of the National Academy of Sciences is scheduled to be held November 10–12 at St. Louis, Mo. St. Louis University and Washington University will be hosts to the Academy members on this occasion. Philip A. Shaffer of Washington University Medical School is Chairman of the Committee on Arrangements.

ACADEMY-COUNCIL PUBLICATION SERIES

Since October, 1951, the Bulletin and the Reprint and Circular Series of the National Research Council have been combined into a new numbered series of Publications of the National Academy of Sciences–National Research Council. Since their beginning in 1919, the Bulletin Series and the Reprint and Circular Series have published 123 and 132 papers respectively. The new combined Publication Series, starting with No. 201, has already issued sixteen reports of committees, proceedings of National Research Council conferences, reviews, and surveys of research programs, totaling 2,250 pages. Five more issues are in press, and other miscellaneous and technical materials of the Academy–Council are planned for it.

Some desirable standardization has been realized in the new Publication Series. Issues are in one of two sizes: 7 x 10 or 8½ x 11 inches. Letter press or photo offset printing is used. About one-fourth of the cover area has a standard design; the remainder is at the disposal of the issuing group. Annual subscription to all of the publications of the new series is offered at twenty-five percent discount from the prices of the individual issues. An up-to-date catalog of all the publications of the Academy–Council currently in stock has been issued and is available upon request.

The editorial mechanics of publishing the *Proceedings of the National Academy of Sciences* have recently been transferred to Washington and placed in the Academy–Council Publication Office.

STAFF MEMBER ACCEPTS COLLEGE PRESIDENCY

David M. Delo, Executive Secretary of the Division of Geology and Geography of the National Research Council, has been elected president of Wagner College, Staten Island, N. Y., and will assume his new duties in July. His associates in the Research Council and his many friends in Washington wish him success in this new assignment.

In addition to serving as Executive Secretary of the Division of Geology and Geography, Dr. Delo has directed the work of the American Geological Institute since its organization in 1949 and has served as a member of the Academy–Council Publications Committee and of the Editorial Board of NEWS REPORT.

CONFERENCE ON NATURAL RESOURCES

A conference on "What can geology and geophysics contribute to improve the natural resources picture?" was a feature of the annual meeting of the Division of Geology and Geography held on May 3. Participants included geologists and geophysicists prominent in the mining and petroleum industries, federal and state agencies, and university departments. A summary report of the conference and its recommendations will be published by the Division.

REPLY TO HUNGARIAN ACADEMY ON BACTERIOLOGICAL WARFARE

On March 15, 1952, President Bronk received the following cablegram from Istavan Rusznyak, President of the Hungarian Academy of Sciences:

We Hungarian scientists have been profoundly shocked to learn of the horrible fact, contrary to all human feelings, that the United States forces fighting in Korea have used bacteriological weapons to exterminate the peaceful Korean and Chinese peoples. We would most emphatically request you, sir, and all other American scientists, in the name of the lofty ideals of science and of moral principles of mankind, to raise your voices in protest against this ghastly deed and prevent this crime that is being committed in the name of the people of the United States and with the instruments of science.

On March 31, Dr. Bronk replied to Dr. Rusznyak, as follows:

In your recent cablegram to me you say that the United States forces fighting in Korea have used bacteriological weapons. Many members of the National Academy of Sciences of the United States of America and its Council are well enough informed to be certain that this assertion is not true. No member of our Academy knows of evidence which supports your claim that the United Nations forces in Korea have waged bacteriological warfare. Therefore, as scientists, we can not accept as facts such unsubstantiated assertions. We regret that you of the Hungarian Academy have not likewise reserved your judgment concerning statements which, in their nature, cannot help but incite passions and hatred, until those statements have been proved or disproved by scientific investigation. We know that the United States has proposed that the International Committee of the Red Cross, a neutral and independent body, make such an investigation on both sides of the battle line in Korea. The ICRC has agreed to do this, provided the belligerents on both sides will cooperate, and has offered to include Asians from nonbelligerent countries in its Commission. The Unified Command readily offered to cooperate fully. The Communists so far have rejected the proposal of the ICRC. Accordingly, we urge the Hungarian Academy of Sciences to request the Communist authorities to cooperate in such an impartial and objective investigation by the Red Cross. Pending such a scientific inquiry we hope you will share our skepticism as befits men of science. We are saddened by your message which persuades us that you cannot do so now. This incident strengthens our conviction that only in an open world can men have access to the facts which make possible our survival and enable us to live free of terror.

VICE-CHAIRMAN APPOINTED IN DIVISION OF MEDICAL SCIENCES

R. Keith Cannan, Chairman of the Department of Chemistry, New York University College of Medicine, has been appointed Vice-Chairman of the Division of Medical Sciences. He will devote half-time to the Division post until July 1, and full-time thereafter. Dr. Cannan has participated in Division activities for several years. He has served as Chairman of the Committee on Growth advisory to the American Cancer Society, as a member of the Subcommittee on Shock concerned primarily with the development of plasma volume expanders (plasma substitutes), and as a member of the Executive Committee of the Division.

MEDICAL SCIENCES INFORMATION EXCHANGE

Two years ago the Division of Medical Sciences inaugurated an information exchange service to assist in locating sources of support for medical research. During the past year the Exchange has analyzed the data which it has collected and prepared a report which summarizes the support of research in medical and allied fields by Government and private agencies and delineates those fields of investigation which are liberally or sparsely financed. The report, which was published in SCIENCE, is listed under *New Publications* in this issue of NEWS REPORT.

The Exchange continues to seek knowledge of new sources of support for medical research. During the year, six foundations were added to the list of approximately sixty agencies, both governmental and private, cooperating with the Exchange. Three commercial houses have registered their research awards with the Exchange, and several others have taken the question under consideration pending the reaction of industry as a whole.

BUILDING RESEARCH INSTITUTE

The Building Research Institute held its first annual meeting in Washington on March 6. Frederick L. Hovde, Chairman of the Building Research Advisory Board, presided. The one-day meeting, which was attended by more than fifty persons representing member organizations of the Institute and the Building Research Advisory Board, was devoted to a review of recent developments in building research, reports on the housing research survey, and general policies for stimulating research.

The program included a report by Commissioner W. E. Reynolds of the Public Buildings Service on Government needs for building research to solve the many technical problems arising from the construction and operation of more than 100 million square feet of building space.

Following the reports, there was a round-table discussion on the objectives of the Building Research Institute and the relationship between the Building Research Advisory Board and the new Institute.

HANDBOOK OF BIOLOGICAL DATA

Copies of "Standard Values in Blood," the first fascicle of the *Handbook of Biological Data,* have been distributed by the U. S. Air Force, Dayton, Ohio, to persons who contributed toward the development of the book and to the editors of a selected number of scientific journals. This project is being carried on under the supervision of the Committee on the Handbook of Biological Data of the Division of Biology and Agriculture.

Two additional chapters of the handbook, covering nutrition and metabolism and the growth and life histories of organisms, are nearing completion. These tables will be published in book form in the near future.

STRUCTURE AND PROPERTIES OF SOLID SURFACES

The Committee on Solids of the Division of Physical Sciences is arranging a three-day conference on the "Structure and Properties of Solid Surfaces," to be held in the fall of 1952. Attendance will be by invitation and will be limited to active participants in the conference program. The proceedings of the conference will be published.

AMERICAN GEOLOGICAL INSTITUTE

The Board of Directors of the American Geological Institute met in Los Angeles on March 23 prior to the annual meetings of the American Association of Petroleum Geologists and associated societies. The Board approved the issuance during the coming year of a compilation of abstracts of current geological and geophysical literature published in the United States. It is anticipated that this will be the first step toward eventual issuance of a journal of geological abstracts.

In March of this year, the Institute published a "career booklet" in geological science, an item which has been needed for several years. "Shall I Study Geological Science?" may be obtained by writing to Institute headquarters, located at the National Research Council.

AMERICAN GEOGRAPHICAL SOCIETY CENTENNIAL YEAR

At a convocation on May 22 in New York City, the American Geographical Society commemorated the one hundredth anniversary of the organization of the Society under its first charter. The Charter Day Program was "highlighted" by an address given by John Foster Dulles at the American Academy of Arts and Letters. Richard U. Light, President of the American Geographical Society, presided.

Following the address by Mr. Dulles, centennial guests were invited to the Society's headquarters where William Hale Harkness, Vice-President of the Society, officially opened the Centennial Exhibition and released the Society's centennial volume *Geography in the Making*, by John Kirtland Wright.

To the geographic profession, the centennial volume by Dr. Wright, Director of the Society from 1938 to 1949, provides an authoritative history of the development of modern geography. To the lay citizen, it is a record of the Society's century and an eloquent tribute to America's independent, nonprofit institutions dedicated to research.

SYMPOSIUM ON OCEANOGRAPHIC INSTRUMENTATION

At the request of the Geophysics Branch of the Office of Naval Research, the Division of Physical Sciences is arranging for a three-day Symposium on Oceanographic Instrumentation, to be held late in June. Attendance will be by invitation. The proceedings of the Symposium will be published.

FELLOWSHIP PROGRAMS

NATIONAL SCIENCE FOUNDATION FELLOWSHIPS

Nearly 3,000 young men and women applied for National Science Foundation fellowships for the academic year 1952–53. Approximately 90 percent of the applicants sought predoctoral fellowships, while the remaining 10 percent applied for postdoctoral awards. The final tally reveals that 659, or roughly 25 percent of the applicants, were offered fellowships. Of this number, 585 accepted appointments: 547 in the predoctoral group and 38 in the postdoctoral group.

The difficult task of selecting the fellowship recipients was handled by the Fellowship Office of the National Research Council. Screening panels composed of prominent scientists in the physical, biological, mathematical, and engineering sciences were called upon to examine all the applications and to prepare the lists of successful candidates. More than sixty scientists took part in the screening operations, which required a total of eight full days distributed over a period of five weeks. Between meetings of the screening panels, the staff of the Fellowship Office assembled and reassembled the applications, listed and relisted the candidates under the various scientific fields, and prepared the many scorecards and check lists required by the examiners. Although the Research Council has conducted screening operations of this kind over a period of many years, the large number of applicants involved in the National Science Foundation program and the short period available in which to complete the work demanded special planning and maximum use of manpower. Through the splendid cooperation of the many scientists who contributed generously of their time and energy, the task was carried through on schedule.

FELLOWSHIPS IN ELECTRONICS

The Fellowship Office of the National Research Council has announced the award of five predoctoral fellowships in electronics for 1952–53. These fellowships are supported by the Radio Corporation of America.

The following list of appointees indicates the institution from which the recipient received his degree and the nature and location of his fellowship research:

Casper William Barnes, Jr. (M.A., 1951, University of Florida)
Statistical properties of space-charge-wave phenomena—Stanford University, with W. W. Harmon.

Harry Dreicer (S.B., 1951, Massachusetts Institute of Technology)
Micro-wave gas discharge and transistor electronics—Massachusetts Institute of Technology, with S. C. Brown and W. P. Allis.

Richard William Grow (M.S.E.E., 1949, University of Utah)
Vacuum tube development—Stanford University, with Lester M. Field.

Bernhard Edward Keiser (M.S.E.E., 1951, Washington University)
Electronic methods for improvement of the signal to noise ratio in the transmission of intelligence—Washington University, with D. F. Winter.

Seymour Stein (S.M., 1950, Harvard University)
Application of electromagnetic field theory to problems of propagation of waves through media or guiding structures—Harvard University, with R. W. King.

AWARDS IN SUPPORT OF CANCER RESEARCH

Upon recommendation of the Section on Fellowships and of the Executive Committee of the National Research Council Committee on Growth, the American Cancer Society has awarded forty-eight fellowships in cancer research for the period 1952–53. Two of these fellowships are British–American exchange fellowships. The total value of the awards amounts to $196,649. Recipients of the awards will study in thirty different institutions in the United States and in three foreign countries.

In addition to the fellowship awards mentioned above, the American Cancer Society, upon recommendation of the Committee on Growth, has awarded six scholar grants to help promising scientists who have recently completed their training to establish themselves in their careers as cancer investigators. These grants provide $6,000 annually for a period of three years to the institution at which the scholar elects to carry on his research. The following scholars have been appointed and will work at the institutions indicated:

William S. Blakemore (M.D., University of Pennsylvania, 1945)
Department of Surgery, University of Pennsylvania.

Edward A. Eckert (Ph.D., Duke University, 1951)
Department of Surgery and Bacteriology, Duke University.

David M. Hume (M.D., University of Chicago, 1943)
Laboratory for Surgical Research, Peter Bent Brigham Hospital, Harvard University.

Charles A. Nichol (Ph.D., University of Wisconsin, 1949)
Department of Pharmacology, Western Reserve University.

Martin Sonenberg (M.D., New York University, 1944; Ph.D., New York University, 1952)
Department of Medicine, Sloan-Kettering Institute Memorial Hospital.

H. Guy Williams-Ashman (Ph.D., University of London, 1949)
Ben May Laboratory for Cancer Research, University of Chicago.

FELLOWSHIPS IN THE MEDICAL SCIENCES

The Medical Fellowship Board of the Division of Medical Sciences has administered postdoctoral fellowships in the medical sciences for the Rockefeller Foundation for thirty years. It has also served the Foundation in the award of Welch Fellowships in Internal Medicine since 1940. Two years ago the National Tuberculosis Association initiated a series of fellowships in tuberculosis, and during the past year the program of the Board has been augmented by a grant from the Lilly Research Laboratories. The fellowships in poliomyelitis, supported by the National Foundation for Infantile Paralysis, with one exception, have terminated.

At the annual meeting of the Board in March, 1952, nineteen appointments were made for the academic year 1952–1953. In addition, two awards made in previous years were extended for one year. The following list of twenty-one appointees indicates the institution from which the recipients received the doctorate, as well as the nature and location of their fellowship research:

Welch Fellowship in Internal Medicine

George J. Gabuzda, Jr. (M.D., Harvard Medical School, 1944)
Antibiotics and nutrition; folic acid metabolism in clinical scurvy; ammonia metabolism in liver disease—Thorndike Memorial Laboratory, Boston City Hospital, with Charles S. Davidson.

Senior Fellowship in Poliomyelitis

C. Wesley Watson (M.D., Yale University, 1943)
Research program to be determined—Neurological Unit, Boston City Hospital, with D. Denny-Brown.

Fellowships in the Medical Sciences Administered for Rockefeller Foundation

Sam M. Beiser (Ph.D., Columbia University, 1951)
1) Immunochemical studies on mutants of *E. coli*—Tuberculosis Research Laboratory, Cornell University, with Bernard D. Davis. 2) Genetic capability of formation of an adaptive enzyme by bacteria—Rockefeller Institute for Medical Research, New York, with Rollin D. Hotchkiss.

Alice Bronfenbrenner (M.D., Washington University, 1950)
Research program and location to be determined.

Paul F. Cranefield, Jr. (Ph.D., University of Wisconsin, 1951)
Effect of metabolic inhibitors and alterations in the ionic environment upon the resting and active oxygen consumption of mammalian peripheral nerve—Johns Hopkins University, with Detlev W. Bronk.

Edmund Klein (M.D., University of Toronto, 1951)
Interactions of proteins with white blood cells—Harvard University, with E. J. Cohn.

Donald W. Kupke (Ph.D., Candidate, Stanford University, 1952)
Sedimentation behavior and related properties of the histone component from cell nuclei of various tissues in the same and different species—Carlsberg Laboratory, Copenhagen, Denmark, with Kaj Linderstrøm-Lang.

Irving Lyon (Ph.D., Candidate, University of California, 1952)
Nutritional (and physiological) state of the animal and its intermediary metabolism—Harvard School of Public Health, with Fredrick J. Stare.

John A. MacLaren (Ph.D., Vanderbilt University, 1951)
Pathogenesis of and chemotherapeutic studies on fungus infections in embryonated eggs—Rutgers University, with W. J. Nickerson and Vincent Groupé.

Norman J. Nadler (M.D., C.M., McGill University, 1951)
A mathematico-biophysical analysis of thyroid physiology—McGill University, with C. P. Leblond.

Melvin M. Newman (M.D., University of Chicago, 1944)
Effects of pulmonary collapse, arterio-venous shunts, and pulmonary vascular occlusions on the dynamics of the lesser circulation—University of Chicago, with William E. Adams.

John F. Otto, Jr. (M.D., University of Cincinnati, 1948)
Mechanisms of action of corticotropin and thyroid-adrenal relationships—New England Center Hospital, Boston, with Edwin B. Astwood.

Richard T. Smith (M.D., Tulane University, 1950)
Pathogenesis of rheumatic fever and allied disorders; susceptibility of the infant organism to infection—University of Minnesota, with Lewis Thomas.

John H. Vaughan (M.D., Harvard Medical School, 1945)
Nature of the skin sensitizing antibody—Columbia University, with Elvin A. Kabat.

Fellowships in the Medical Sciences Administered for Lilly Research Laboratories

Frederick G. Hofmann (Ph.D., Candidate, Harvard University, 1952)
Adrenal cortical insufficiency in the rhesus monkey—Harvard School of Dental Medicine, with Roy O. Greep.

Arnold A. Lear (M.D., Harvard Medical School, 1950)
Anemia in chronic liver disease—Thorndike Memorial Laboratory, Boston City Hospital, with William B. Castle.

Henry L. Price (M.D., University of Pennsylvania, 1946)
Cardiac decompensation in the dog—Harvard Medical School, with Eugene M. Landis.

George M. Sisson (Ph.D., Candidate, University of Rochester, 1952)
Red cell and hemoglobin destruction—Columbia University, with M. I. Gregersen and W. S. Root.

Martha Vaughan (M.D., Yale University, 1949)
Protein structure and possible methods of synthesis—National Institutes of Health, Bethesda, Md., with Christian B. Anfinsen.

Fellowships in Tuberculosis

Oscar J. Balchum (M.D., Wayne University, 1943)
Permeability of the alveolo-capillary membrane of the lungs in man—National Jewish Hospital, Denver, with Abe Ravin.

Arthur M. Dannenberg, Jr. (M.D., Harvard Medical School, 1947; Ph.D., Candidate, University of Pennsylvania, 1952)
Characterization of some of the proteolytic enzymes of animal tissues and bacteria—University of Utah, with Emil L. Smith.

FELLOWSHIPS IN THE NATURAL SCIENCES

Twenty-three postdoctoral fellowships in the natural sciences have been awarded for 1952–53. These fellowships are supported by the Rockefeller Foundation, Merck and

Company, Inc., and Lilly Research Laboratories. The following list indicates the institution from which the recipient received his degree as well as the nature and location of his fellowship research:

National Research Council Postdoctoral Fellows Supported by Rockefeller Foundation

George Richmond Bird (to receive Ph.D. in September, 1952, Harvard University)
Micro-wave spectroscopy at elevated temperatures—Columbia University, with Charles H. Townes.

Julian Calvert Eisenstein (Ph.D., 1948, Harvard University)
Electrical conductivity of the noble metals at low temperatures; also thermodynamics of magnetization—The Clarendon Laboratory, Oxford, England, with F. Simon.

Isidore Bernard Fleischer (to receive Ph.D. in June or August, 1952, University of Chicago)
Investigation of topological vector spaces over general topological fields—University of Nancy, France, with J. Dieudonné.

John Bernard Hanson (to receive Ph.D. in June, 1952, State College of Washington)
Experimentation to determine if metabolic energy produced in plant cells is proportioned between growth and ion accumulation processes —California Institute of Technology, with James Bonner.

Donald Gordon Higman (to receive Ph.D. in June, 1952, University of Illinois)
Mathematics—the splitting problem for groups —McGill University, with Hans Zassenhaus.

Martin Jesse Klein (Ph.D., 1948, Massachusetts Institute of Technology)
Statistical mechanics of relaxation phenomena—Dublin Institute for Advanced Studies, with E. Schroedinger.

Dan Leslie Lindsley, Jr. (to receive Ph.D. in June, 1952, California Institute of Technology)
Some consequences of oogonial crossing-over in acute inversion heterozygotes of Drosophila melanogaster—Princeton University, with K. W. Cooper.

Ariel Gideon Loewy (Ph.D., 1951, Harvard University)
Studies on the problem of biological contractility—Cambridge University, with Kenneth Bailey.

Edward Allen Mason (Ph.D., 1951, Massachusetts Institute of Technology)
Determination of intermolecular forces from gaseous transport properties—University of Wisconsin, with J. O. Hirschfelder.

Robert Gail Mills (to receive Ph.D. in spring or summer 1952, University of California)
Angular correlation in the beta decay of Nitrogen 12—University of Copenhagen.

Norbert Muller (to receive Ph.D. in June, 1952, Harvard University)
Molecular orbital treatment of NO_2—University of Chicago, with R. S. Mulliken.

John Essington Sanders (to receive Ph.D. in June, 1952, Yale University)
Faunas of the Mississippian strata of the Greendale syncline in northeast Tennessee—U. S. National Museum, Washington, D. C., with G. Arthur Cooper.

William G. Van der Kloot (to receive Ph.D. in June, 1952, Harvard University)
Physiology of instinctive cocoon-spinning behavior—Cambridge University, with William H. Thorpe.

Merck Postdoctoral Fellows

Jacob Joseph Blum (to receive Ph.D. in June, 1952, University of Chicago)
Protein structure in general and muscle action in particular—California Institute of Technology, with Linus Pauling.

Donald Hartwell Bucklin (to receive Ph.D. in June, 1952, Washington University)
Experimental embryology of insects; physiology and biochemistry of insect growth—Harvard University, with C. M. Williams.

Richard Leslie Hinman (to receive Ph.D. in June, 1952, University of Illinois)
Synthetic organic chemistry—Cambridge University, with Alexander R. Todd.

Lowell Edward Hokin (to receive Ph.D. in June, 1952, University of Sheffield)
Role of nucleic acids in enzyme secretion and cell division—Research Institute, Montreal General Hospital, with J. H. Quastel.

Robert Guy Parrish (to receive Ph.D. in May, 1952, Duke University)
Enzymatic properties, structural basis of protein molecule and its relation to biological function—Cambridge University, with John Kendrew.

Lilly Postdoctoral Fellows

John Harold Barrett (to receive Ph.D. in June, 1952, Rice Institute)
Barium titanate and related ferroelectric materials—Massachusetts Institute of Technology, with J. C. Slater.

Albert William Burgstahler (to receive Ph.D. in June, 1952, Harvard University)
Chemistry of Natural Products—Harvard University, with G. Stork.

David Powell Hackett (received Ph.D. in 1951, Harvard University)
Nature of processes controlling cell water relations; mechanism of action of auxin, the plant hormone—King's College, University of London, with T. A. Bennett-Clark.

David Swenson Hogness (to receive Ph.D. in summer, 1952, California Institute of Technology)
Enzyme chemistry and biochemical genetics; adaptive enzyme formation in bacteria—Institut Pasteur, with Jacques Monod.

Michael Mullen Robison (to receive Ph.D. in June, 1952, University of Illinois)
Organometallic compounds—Cambridge University, with H. J. Emeleus.

INTERNATIONAL RELATIONS

EUROPEAN LABORATORY FOR NUCLEAR RESEARCH

Representatives of twelve European nations met in Geneva, February 12–15, under the auspices of UNESCO, and agreed to form a Council of Representatives of European States to plan and direct the operations of an international laboratory for nuclear research. The Council will organize study groups and supervise their activities. One such group will work at the Institute for Theoretical Nuclear Physics at Copenhagen. The Council will function independently of UNESCO, under the terms of a special agreement, and will operate on funds granted by the participating states. Headquarters for the Council will be located in Geneva.

The new laboratory and the Institute in Copenhagen will provide opportunities for European scientists to participate more fully in the new science of nucleonics. It is expected that the laboratory will be equipped with a cyclotron of 500 million electron-volts and a powerful cosmotron of three to ten billion electron-volts.

INTERNATIONAL COMPUTATION CENTER

The first international laboratory to be established as a result of stimulation and assistance provided by the United Nations and UNESCO will open in Rome sometime this year. It will be known as the International Computation Center and will house the complicated computing machines which have proved so helpful in working out the intricate calculations required in the solution of many scientific and technical problems.

The history leading up to the establishment of the Center has been long and marked by numerous national and international conferences, meetings of experts, and exchanges of diplomatic communications. The Convention creating the Center was formally drafted in Paris last November and since then has been signed by eight nations. Although the United States has not decided whether it will adhere to the Convention, it has participated in a majority of the organizational meetings and has provided professional counsel on several occasions. Herman H. Goldstine of the Institute for Advanced Study at Princeton, New Jersey, served as the United States official observer at conferences held in 1951.

The Center will be located in the Italian National Research Council building in Rome where library and documentation facilities will be available. Initial financing will be provided by a $75,000 interest-free loan from the Italian Government and a $60,000 loan from UNESCO. A grant of $15,000 from UNESCO has been made available for organizational expenses. While enjoying the moral and financial support of the United Nations and UNESCO, the Center will be a self-governing institution responsible only to the states adhering to its Convention.

INTERNATIONAL MEETING OF ANALYTICAL CHEMISTS

The Section on Analytical Chemistry of the International Union of Pure and Applied Chemistry (IUPAC) will meet at Oxford, England, September 3–10, 1952. The United States will be represented by a delegation to be selected by the National Committee of the Union.

The following commissions of the Section are scheduled to meet and to report: *1*) Physical-Chemical Data, 2) Analytical Reaction, 3) Microtechniques, *4*) Terminology and Expression of Analytical Results. Exhibits illustrating new techniques in analytical chemistry or special applications of older techniques have been arranged and will be demonstrated in the Dyson Perrins Laboratory.

Among the principal addresses to be delivered at the eight-day meeting are the following: "Research and Analytical Instrumentation," by R. H. Müller, Los Alamos Scientific Laboratory; "The Value and Economic Importance of Chemical Analyses in Industry and Manufacturing," by L. H. Lampitt, Chief Chemist and Director, J. Lyons and Co., Ltd., England; and "A Contemporary Assessment of the Place of Classical Methods in Chemical Analysis," by C. J. van Nieuwenburg, Professor of Chemistry, Technical University, Delft, Holland.

Additional information concerning the program may be obtained from the secretary of the organizing committee: R. C. Chirnside, Esq., Research Laboratories, General Electric Co., Ltd., Wembley, Middlesex, England.

INTERNATIONAL FEDERATION OF DOCUMENTATION

Milton O. Lee, Executive Secretary of the Division of Biology and Agriculture, represented the National Academy of Sciences–National Research Council at a meeting of the reorganizing committee of the International Federation of Documentation in Paris, April 25–27. The committee discussed the reorganization of the Federation and plans for the next international conference of the Federation, to be held in 1954 in conjunction with the meetings of the International Federation of Library Associations and the Association of Special Libraries.

INDEX BIBLIOGRAPHICUS

UNESCO has announced the publication of Volume I of the new *Index Bibliographicus,* which has been produced jointly by UNESCO and the International Federation for Documentation. This volume, which constitutes a new edition of the earlier 1923 and 1931 versions of the *Index,* lists periodicals containing bibliographies and abstracts in science and technology. It will be followed, later in the year, by a second volume covering the social sciences, education, and humanistic studies.

Index Bibliographicus may be purchased from the Columbia University Press.

INTERNATIONAL MATHEMATICAL UNION

The International Mathematical Union held its First General Assembly in Rome, Italy, March 6–8. The Unione Matematica Italiana acted as host to the Assembly. The United States was represented by an official delegation of five mathematicians nominated by the National Research Council and appointed by the Secretary of State. The list of delegates was published in the last issue of NEWS REPORT.

The General Assembly elected the following officers of the Union: Marshall Stone (United States), *President;* Emile Borel (France), *First Vice-President;* E. Kamke (Germany), *Second Vice-President;* E. Bompiani (Italy), *Secretary.* The Executive Committee, which will direct the work of the Union until the next Assembly, will consist of the officers and the following three members-at-large, also elected by the General Assembly: W. V. D. Hodge (Great Britain), S. Iyanaga (Japan), and B. Jessen (Denmark).

Among the various actions taken at the First General Assembly, the following may be of interest to readers of NEWS REPORT: *1*) The yearly Unit Contribution to the Union was fixed at $65. (The United States contributes eight units, or $520 annually.) *2*) A yearly budget of $3,725 was approved. *3*) It was voted to apply for admission to the International Council of Scientific Unions. *4*) The next General Assembly of the Union was scheduled to be held in Holland in 1954 in conjunction with the International Congress of Mathematicians.

PACIFIC SCIENCE BOARD

Harold J. Coolidge, Executive Director of the Pacific Science Board, and George P. Murdock, Vice-Chairman of the Board, visited the Pacific area in January and February. Meetings were held with scientific groups in Tokyo, Okinawa, Manila, Saigon, and Honolulu. While in Manila, Mr. Coolidge and Dr. Murdock discussed with the Philippine National Research Council plans for the Eighth Pacific Science Congress which will be held at the University of the Philippines in Manila during the two-week period beginning November 16, 1953.

RESEARCH IN THE PACIFIC AREA

The Pacific Science Board will sponsor several field research programs in the Pacific area during 1952.

Under the program of Scientific Investigations in Micronesia, assisted by a grant from the Office of Naval Research, a seven-man team will conduct ecological studies at Raroia, a coral atoll in the Tuamotu Islands. Members of the team are: Norman D. Newell, geologist, American Museum of Natural History; John V. Byrne, assistant in geology, Columbia University; Maxwell S. Doty, botanist, University of Hawaii; J. Van Newhouse, assistant in botany, University of New Hampshire; Joseph P. E. Morrison, malacologist, U. S. National Museum; Robert R. Harry, ichthyologist, Philadelphia Academy of Sciences; and Bengt Danielsson, Swedish anthropologist.

The program of the Invertebrate Consultants Committee for the Pacific, also assisted by a grant from the Office of Naval Research, will include a further release of carnivorous snails on the island of Agiguan by Yoshio Kondo, malacologist, of the Bernice P. Bishop Museum, and a detailed study of the snails released there earlier. A grant has also been made to assist T. H. Waterman of Yale University in his comparative physiological study on the horseshoe crab in Japan, the Philippines, Singapore, and Indo-China. Arrangements are being made for Dr. Waterman to work at the French Oceanographic Institute at Nhatrang.

Scientific investigations in the Ryukyu Islands, supported by a grant from the Department of the Army, will include a six-month extension of the tuberculosis survey being conducted by G. S. Pesquera, a four-month extension of A. V. Saleeby's parasitological survey, and a two-month extension of the trachoma survey by R. R. Trotter. In the field of cultural anthropology, Allan H. Smith of the University of Washington will spend four months studying a small community in the southern Ryukyus, and George H. Kerr of Stanford University will spend twelve months gathering material for a comprehensive English-language history of the Ryukyu Islands prior to the Japanese surrender.

INTERNATIONAL UNION AGAINST TUBERCULOSIS

The International Union against Tuberculosis will hold its Twelfth Conference at Rio de Janeiro, August 24–27, 1952. The agenda will include the following subjects: "Immunity and Tuberculosis," "Treatment and Prognosis in Minimal Pulmonary Tuberculosis," and "Organization and Results in regard to the Tuberculosis Campaign of Mass Surveys." Esmond R. Long, Director of the Henry Phipps Psychiatric Institute, University of Pennsylvania, will represent the National Academy of Sciences at the Conference.

INTERNATIONAL CONGRESS OF PHOTOGRAMMETRY

The Seventh International Congress and Exposition of Photogrammetry will be held in Washington, D. C., and Dayton, Ohio, September 4–16, 1952. Preparations for the Congress and Exposition are being handled by an organizing committee of the International Society of Photogrammetry under the direction of Captain O. S. Reading, President of the Society and Chief of the Division of Photogrammetry, U. S. Coast and Geodetic Survey.

INTERNATIONAL ASSOCIATION FOR HYDRAULIC RESEARCH

The Permanent Committee of the International Association for Hydraulic Research recently announced that the next plenary meeting of the Association will be held at the University of Minnesota during the week of August 30, 1953. The meeting will be arranged jointly with the Hydraulics Division of the American Society of Civil Engineers.

Subjects to be discussed at the meeting will include: *1*) density currents; *2*) air entrainment by flowing water; *3*) waves, beach erosion, and hydromechanics of shore structures; *4*) basic relationships of sediment transportation by flowing water. Papers on the above subjects will be welcomed by the Organizing Committee.

Detailed information on plans for the meeting may be obtained from Lorenz G. Straub, President of the International Association for Hydraulic Research, St. Anthony Falls Hydraulic Laboratory, Minneapolis, Minn.

INTERNATIONAL SYMPOSIUM ON DESERT RESEARCH

The Research Council of Israel, in cooperation with UNESCO, held an International Symposium on Problems of Desert Research in Jerusalem, May 7–14. Participants in the Symposium are hopeful that the conclusions derived from the discussion of these problems will serve to stimulate the further development of desert science and contribute to the reclamation of arid areas.

The following United States scientists took a prominent part in Symposium activities: W. C. Lowdermilk, formerly of the Soil Conservation Service, Department of Agriculture, who served as president of the Symposium; J. B. Leighly, University of California; C. E. Kellogg, Bureau of Plant Industry, Department of Agriculture; P. Meigs, Department of Defense; C. W. Thornthwaite, Johns Hopkins University; P. H. Nesbitt, U. S. Air Force; and P. W. Went, California Institute of Technology.

RECORD OF MEETINGS

March

1 National Research Council Fellowships, Divisional Committees (Astronomy and Physics) (Biology and Agriculture) (Mathematics)
2 National Research Council Fellowships, Divisional Committees (Chemistry)
3 Committee on Hearing
National Committee, International Union Against Cancer, *Cincinnati, Ohio*
4 Executive Committee, Committee on Growth, *Cincinnati, Ohio*
Committee on Residual Stresses
Subcommittee on Sterilization of Blood and Plasma
5 Committee on Globes
5–6 Subcommittee on Fruits and Vegetables, *Chicago, Ill.*
6 Subcommittee on Infectious Diseases
Building Research Institute
7 Committee on Medicine
Committee on Medical Fellowships
10–12 Symposium on Trauma
11 Nickel Conservation Panel
Committee on Ship Steel
11–12 Supervisory Committee on Non-Rigid Pavement Design
12 Subcommittee on Physiology, *Lawrence, Mass.*
13–14 Advisory Panel on Structural Engineering
14 Committee on Scientific Conferences
Executive Committee, Food and Nutrition Board, *New York City*
Committee on Low Sodium Diets
15 Committee on Mathematics Advisory to Office of Naval Research
17 Ad Hoc Committee on Stress
Advisory Panel on Electrical Systems
18 Clothing Conference, *Philadelphia, Pa.*
Committee on Blood and Related Problems
Committee on Ship Steel
19 Committee on Surgery
Food Protection Committee
21 Committee on Flame and Thermal Protective Combat Clothing, *Philadelphia, Pa.*
Committee on Ship Steel
22 Cobalt Supplies Panel, *New York City*
22–23 Committee on Plant and Crop Ecology
23 Board of Directors, American Geological Institute, *Los Angeles, Calif.*
24–25 Advisory Panel on Heating, Ventilating, and Air Conditioning
26 Governing Board of the Academy–Council
27 Committee on Atomic Casualties
28 Intergovernmental Relationships in Highway Affairs
Committee on Ship Steel
28–29 Committee on Milk Production, Distribution, and Quantity, *Cleveland, Ohio*
29 Committee Advisory to Office of Ordnance Research
29–30 Committee on Survey of Physiology
31 Advisory Panel on Building Structure
Committee on Disaster Studies

April

1 Executive Committee, Division of Engineering and Industrial Research
Subcommittee on Dermatology
1–2 Subcommittee on Cereal and Baked Products, *Chicago, Ill.*
2 Toxicology Subcommittee, *Chicago, Ill.*
3 Ad Hoc Committee on Non-Magnetic Materials, *Columbus, Ohio*
Committee on Milk
3–4 Advisory Panel on Space and Planning
4 Pesticide Subcommittee, *Chicago, Ill.*
7 Committee on Definitions and Standards of Identity for Foods, *New York City*
Committee on Problems of Alcohol

April

8–9 Committee on Undersea Warfare

10 Advisory Board on Quartermaster Research and Development
Beryllium Panel
Committee on Veterans Medical Problems
Minerals and Metals Advisory Board

11 National Committee, International Union Against Cancer, *New York City*
Committee on Ship Steel
Subcommittee on Physiology

14 American Institute of Biological Sciences, Committee on Biochemistry Advisory to Office of Naval Research, *New York City*
Committee on Macromolecules, *New York City*
Subcommittee on Radiobiology, *New York City*

14–18 Annual Conference, Advisory Committee on Artificial Limbs

15 Executive Committee, Minerals and Metals Advisory Board

17 Subcommittee on Venereal Diseases

18 Committee on Flame and Thermal Protective Combat Clothing, *Philadelphia, Pa.*
Committee on Survey of Federal Construction Practices
Committee on Psychiatry

19 American Institute of Biological Sciences, Committee on Physiology Advisory to Office of Naval Research, *New York City*
Committee on Aviation Psychology

21 Committee on Photobiology
Subcommittee on Food Supply

21–24 National Committee, International Scientific Radio Union

22 Committee on Sanitary Engineering and Environment
Ad Hoc Committee on Stress
Nickel Conservation Panel

23 Committee for Research in Problems of Sex

24 Committee on Dietary Allowances
Committee on Ship Steel

25 Subcommittee on Oncology

25–26 Section on Fellowships, Committee on Growth, *Princeton, N. J.*
Food and Nutrition Board

28 Executive Committee, Committee on Growth, *New York City*
Subcommittee on Oncology
Subcommittee on the American Registeries of Pathology

28–30 Annual Meeting, National Academy of Sciences

29 Committee on Pathology

30 Executive Committee, Division of Physical Sciences

NEW PUBLICATIONS

Annual Reviews of Nuclear Science. Vol. I, 1951. Stanford, Calif., Annual Reviews., Inc., 1952. 680 p. $6.00.

Engineering Soil Survey Mapping. Highway Research Board Bulletin No. 46. National Research Council. 1952. 93 p. $1.50.

Frost Action in Roads and Airfields: A Review of the Literature, 1765–1951. Highway Research Board Special Report No. 1. Academy–Council Publication No. 211. 1952. 287 p. $3.00.

Frost Action in Soils: A Symposium. Highway Research Board Special Report No. 2. Academy–Council Publication No. 213. 1952. 394 p. $3.75.

Laboratory Design for Handling Radioactive Materials. Building Research Advisory Board. National Research Council. 1952. 140 p. $4.50.

Report of the Ad Hoc Committee on Fluoridation of Water Supplies. Academy–Council Publication No. 214. 1952. 8 p. Single copies available for 3-cent stamp; quantity orders $.10 a copy. (Listed in *News Report*, Vol. I, No. 6; now reprinted in Academy–Council series.)

Report of the Committee on the Measurement of Geologic Time, 1950–1951. Academy–Council Publication No. 212. 140 p. $1.00.

Salvaging Old Pavements by Resurfacing. Highway Research Board Bulletin No. 47. Academy–Council Publication No. 215. 1952.

Societies Affiliated with the National Research Council, February 1952: Officers and Meetings. National Research Council. 1952. 42 p.

Subsurface Drainage. Highway Research Board Bulletin No. 45. National Research Council. 1951. 23 p. $.45.

Summer Field Courses in Geology, 1952. American Geological Institute Report No. 7. Academy–Council Publication No. 216. 1952. 96 p. $1.00.

Support of Research in Medical and Allied Fields for the Period 1946 through 1951. By Stella Leche Deignan and Esther Miller. Reprinted from *Science*, March 28, 1952. 23 p.

Tables of Chemical Kinetics. Homogeneous Reactions. National Bureau of Standards Circular No. 510. Washington, Government Printing Office, 1952. 731 p. $4.00.

Techniques of Particle Energy Control with Van de Graaff Accelerators. Nuclear Science Series, Preliminary Report No. 12. Academy–Council Publication No. 207. 1952. 7 p.

XIIth International Congress of Pure and Applied Chemistry, New York, September 10-13, 1951. Distributed by National Research Council. 1952. 664 p. $1.50.

MAY NOT BE REPRODUCED